

## Title (en)

Method of and apparatus for fluidized-bed gasification and melt combustion

## Title (de)

Verfahren und Vorrichtung zur Wirbelbettvergasung und Schmelzverbrennung

## Title (fr)

Méthode et appareil pour la gazéification en lit fluidisé et combustion dans un lit à fusion

## Publication

**EP 1111304 B1 20030813 (EN)**

## Application

**EP 01101840 A 19950308**

## Priority

- EP 95103355 A 19950308
- JP 6543994 A 19940310
- JP 10154194 A 19940415
- JP 2200095 A 19950209

## Abstract (en)

[origin: EP0676464A2] A combustion method and apparatus in which combustible matter, e.g., waste matter, coal, etc., is gasified to produce a combustible gas containing a sufficiently large amount of combustible component to melt the ash by its own heat. A fluidized-bed furnace (2) has an approximately circular horizontal cross-sectional configuration. A moving bed (9), in which a fluidized medium settles and diffuses, is formed in the central portion of the furnace, and a fluidized bed (10), in which the fluidized medium is actively fluidized, is formed in the peripheral portion in the furnace. The fluidized medium is turned over to the upper part of the moving bed (9) from the upper part of the fluidized bed (10), thus circulating through the two beds. Combustible matter (11) is cast into the upper part of the moving bed (9) and gasified to form a combustible gas while circulating, together with the fluidized medium. The amount of oxygen supplied to the fluidized-bed furnace (2) is set so as to be the same contained in an amount of air not higher than 30% of the theoretical amount of combustion air. The temperature of the fluidized bed (10) is maintained at 450 DEG C to 650 DEG C so that the combustible gas produced contains a large amount of combustible component. The combustible gas and fine particles produced in the fluidized-bed furnace (2) are supplied to a melt combustion furnace where they are burned at high temperature, and the resulting ash is melted.

## IPC 1-7

**F23G 5/027**; C10J 3/64; C10J 3/54; C10J 3/56; F23G 5/00; F23J 15/00; B01J 8/38

## IPC 8 full level

**C10J 3/46** (2006.01); **C10J 3/48** (2006.01); **C10J 3/50** (2006.01); **C10J 3/52** (2006.01); **C10J 3/54** (2006.01); **C10J 3/56** (2006.01); **C10J 3/64** (2006.01); **C10J 3/66** (2006.01); **C10J 3/86** (2006.01); **F23C 10/00** (2006.01); **F23C 10/02** (2006.01); **F23C 10/12** (2006.01); **F23G 5/00** (2006.01); **F23G 5/027** (2006.01); **F23G 5/16** (2006.01); **F23G 5/30** (2006.01); **F23G 5/32** (2006.01); **F23G 5/46** (2006.01); **F23J 1/00** (2006.01); **F23J 15/00** (2006.01); **F23L 7/00** (2006.01)

## CPC (source: EP US)

**C10J 3/503** (2013.01 - EP US); **C10J 3/523** (2013.01 - EP US); **C10J 3/54** (2013.01 - EP US); **C10J 3/56** (2013.01 - EP US); **C10J 3/64** (2013.01 - EP US); **C10J 3/66** (2013.01 - EP US); **C10J 3/723** (2013.01 - EP US); **C10J 3/86** (2013.01 - EP US); **F23G 5/006** (2013.01 - EP US); **F23G 5/027** (2013.01 - EP US); **F23G 5/16** (2013.01 - EP US); **F23G 5/30** (2013.01 - EP US); **F23G 5/32** (2013.01 - EP US); **F23J 15/006** (2013.01 - EP US); **F23L 7/007** (2013.01 - EP US); **C10G 2300/1003** (2013.01 - EP US); **C10J 2200/09** (2013.01 - EP US); **C10J 2200/158** (2013.01 - EP US); **C10J 2300/0946** (2013.01 - EP US); **C10J 2300/0956** (2013.01 - EP US); **C10J 2300/0959** (2013.01 - EP US); **C10J 2300/0973** (2013.01 - EP US); **C10J 2300/0983** (2013.01 - EP US); **C10J 2300/1628** (2013.01 - EP US); **C10J 2300/1634** (2013.01 - EP US); **C10J 2300/1637** (2013.01 - EP US); **C10J 2300/165** (2013.01 - EP US); **C10J 2300/1675** (2013.01 - EP US); **C10J 2300/1687** (2013.01 - EP US); **C10J 2300/1838** (2013.01 - EP US); **C10J 2300/1846** (2013.01 - EP US); **C10J 2300/1853** (2013.01 - EP US); **F23G 2201/40** (2013.01 - EP US); **F23G 2202/101** (2013.01 - EP US); **F23G 2202/102** (2013.01 - EP US); **F23G 2202/103** (2013.01 - EP US); **F23G 2202/104** (2013.01 - EP US); **F23G 2202/20** (2013.01 - EP US); **F23G 2202/30** (2013.01 - EP US); **F23G 2203/30** (2013.01 - EP US); **F23G 2203/501** (2013.01 - EP US); **F23G 2206/00** (2013.01 - EP US); **F23G 2206/203** (2013.01 - EP US); **F23G 2209/12** (2013.01 - EP US); **F23G 2209/20** (2013.01 - EP US); **F23G 2209/26** (2013.01 - EP US); **F23G 2209/28** (2013.01 - EP US); **F23G 2209/281** (2013.01 - EP US); **Y02E 20/12** (2013.01 - EP US); **Y02E 20/16** (2013.01 - EP US); **Y02E 20/18** (2013.01 - EP US); **Y02E 20/34** (2013.01 - EP US); **Y02P 20/129** (2015.11 - EP US); **Y02P 20/143** (2015.11 - EP US)

## Cited by

AU2004316153B2; WO2005080872A1

## Designated contracting state (EPC)

DE ES FR GB IT NL

## DOCDB simple family (publication)

**EP 0676464 A2 19951011**; **EP 0676464 A3 19951122**; **EP 0676464 B1 20011024**; CN 1112662 A 19951129; CN 1158471 C 20040721; CN 1252413 C 20060419; CN 1271074 A 20001025; CN 1311191 C 20070418; CN 1487234 A 20040407; CN 1492027 A 20040428; DE 69523359 D1 20011129; DE 69523359 T2 20020711; DE 69531512 D1 20030918; DE 69531512 T2 20040617; DE 69535026 D1 20060706; DE 69535026 T2 20070118; EP 1111304 A2 20010627; EP 1111304 A3 20010905; EP 1111304 B1 20030813; EP 1286113 A2 20030226; EP 1286113 A3 20030305; EP 1286113 B1 20060531; EP 1367324 A1 20031203; ES 2167381 T3 20020516; ES 2204760 T3 20040501; ES 2265017 T3 20070201; HK 1037396 A1 20020208; HK 1053348 A1 20031017; JP 3153091 B2 20010403; JP H07332614 A 19951222; RU 2138730 C1 19990927; RU 2154235 C1 20000810; RU 95103554 A 19970520; TW 289788 B 19961101; US 5620488 A 19970415; US 5725614 A 19980310; US 5858033 A 19990112; US 6350288 B1 20020226

## DOCDB simple family (application)

**EP 95103355 A 19950308**; CN 00108378 A 20000511; CN 02143572 A 19950309; CN 03138414 A 19950309; CN 95102461 A 19950309; DE 69523359 T 19950308; DE 69531512 T 19950308; DE 69535026 T 19950308; EP 01101840 A 19950308; EP 02025727 A 19950308; EP 03018042 A 19950308; ES 01101840 T 19950308; ES 02025727 T 19950308; ES 95103355 T 19950308; HK 01107350 A 20011019; HK 03105587 A 20030804; JP 2200095 A 19950209; RU 95103554 A 19950309; RU 99103700 A 19990218; TW 84109499 A 19950912; US 19312798 A 19981117; US 40137095 A 19950309; US 54712695 A 19951024; US 91532297 A 19970820